Abstract

The present invention relates generally to transformation of algebraic expressions into a standard form, and in particular, to the equivalence of original and transformed expressions. The present invention relates to a method and apparatus for performing such transformation, and also to a computer program product including a computer readable medium having recorded thereon a computer program for performing such transformation.

According to a first aspect of the present invention there is disclosed a method of determining, in a computer environment, the equivalence, if any, of two algebraic expressions for use in compiler optimisation of source code and like computing tasks, said method comprising the steps of:

(a) recasting said expressions into a form of one or more token pairs arranged sequentially in a string, each said token pair comprising an operator followed by an operand;

(b) reducing said strings in accordance with a set of predetermined simplifying rules; and

(c) comparing the reduced strings by matching, to detect equivalence of the two algebraic expressions.